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Canada. National Development Bureau
The Chibougamau District.

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Bureau

The Chibougamau District

Its Natural Resources and Development

National Development Bureau
Department of the Interior
Ottawa, Canada
1929

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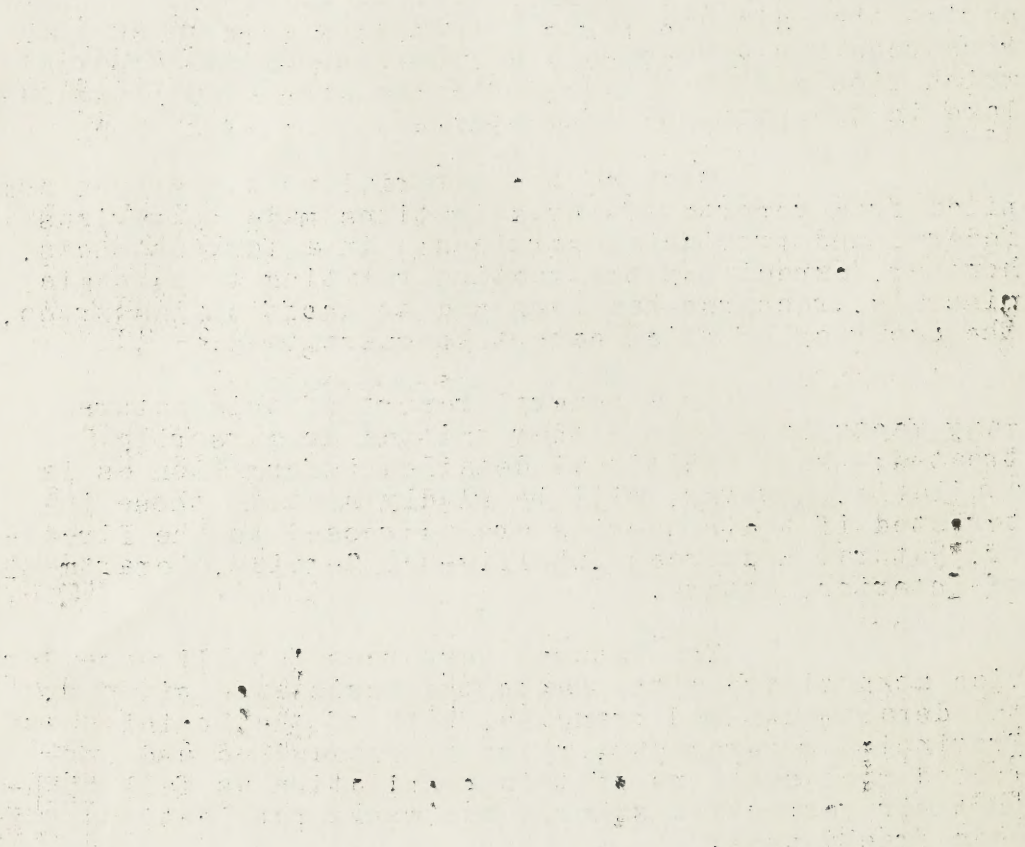
PREFATORY NOTE

The purpose of this report is to summarize the main available information concerning the resources and development of the Chibougamau District which lies mostly to the north and west of Chibougamau lake in the province of Quebec.

Most of the material used has been compiled from reports of investigations made by various federal and provincial services; in a few instances, however, especially the section relating to economic minerals, recourse has been had to unofficial sources, the accuracy of which cannot be guaranteed.

In a general report of this nature many facts have been either omitted or cursorily treated; such additional detailed information as is available, however, will be gladly sent to those interested if their queries are addressed to the Director, Natural Resources Intelligence Service, Department of Interior, Ottawa.

The Natural Resources Intelligence Service acknowledge with thanks the assistance given by the departments and branches, both of the Dominion and Provincial governments, which have examined and corrected such sections of this compilation as fall within their respective spheres and whose publications have been freely used.



CONTENTS

	Page
Chibougamau District	1
Location	1
Means of Access	1
History	3
Physical Features	4
Climate	5
Geology	6
Economic Minerals	8
Forests	14
Fisheries	17
Fur and Game	18
Agriculture	18
Water Power	19
Population	20
Bibliography	21

M A P S

Canoe Route	1a.
Geological Formations	6a.
Claims Staked and Owners	13a.
Natural Resources	21a.

NATURAL RESOURCES
of
CHIBOUGAMAU DISTRICT

The rapid development of the lake St.John district of Quebec in the last five years and the proposals of British American and Canadian capitalists to continue expansion in this region, and to extend their activities to include the area adjacent to lake Chibougamau have brought this latter district much before the public interest in the last year or two. So far interest in the Chibougamau area has been largely on account of its mineral possibilities. The district has other natural resources and the purpose of this article is to discuss the general position and outlook of the region with respect to its future development.

LOCATION

The district covering approximately 1,200 square miles lies mostly to the north and west of Chibougamau lake in the province of Quebec, and is centred about 150 miles north of the Canadian National railway, or almost 300 miles directly north of Montreal.

MEANS OF ACCESS

Before the completion of the Canadian National railway through the northern part of the province of Quebec, prospectors, mining engineers and others reached the area by way of lake St.John, then up the Ashuapmuchuan river. This route was difficult owing to the many portages, swift-flowing water, poling, etc., skilled canoemen requiring two weeks to make the 180 miles. At present there is a much easier summer route from Oskelaneo station on the Canadian National railway; it is over thirty miles shorter and may be covered

SKETCH MAP
SHOWING CANOE ROUTE
OSKELANEO to L CHIBOUGAMAU
Scale of miles
5 0 5 10 15 20 25
LAKE CHIBOUGAMAU
Obatogamau Lake
Nikabau L.
Askitichi L.
Normandin L.
Clearwater L.
Verreau Lake
Sandy Beach Lake
Lake Kikendatch
Gouin Dam Fall
Lakes
OSKELANEO
Oskelaneo Lake
Parent
Wykes
Manouan
C.N.R.
N.A.T.R.Y.
Prepared by
Nat. Res. Intell. Service, Dept. of the Interior

in just half the time. The Quebec Government by the construction of the Gouin Dam has raised the level of the water of the St. Maurice river as far north as Vérreau lake, thus enabling the use of motor boats and barges over the first eighty miles; the remaining sixty to seventy miles to Chibougamau are easily negotiated by the 18-foot freighter type of canoe with small outboard motor. There are twenty-five portages to be made from the railway to Chibougamau lake. With a few exceptions, the portages are dry, easily travelled and are well under a mile in length, excert one which is a mile and a quarter long. The approximate cost of transportation of supplies over this route is between twenty and twenty-five cents per pound.

A winter trail is now available for dogs or light sleigh traffic from St. Felicien on lake St. John, with transportation costs averaging fifteen cents per pound.

Recently aeroplane service has been established to the area. Starting from Oskelaneo station the flight can be made to Chibougamau in one and one-half hours. The rates are a little more than the cost of going in by canoe, but five to six days are saved. Provisions, supplies and mail will be carried at reasonable rates in addition to passengers.

Many rumors have been circulated recently regarding the construction of a railroad into the Chibougamau area and in this connection it is interesting to note that early this year the Quebec-Chibougamau railway let a contract for the first sixty miles of this road, running from Hebertville to Dolbeau. It might not be out of place to mention here, that it is quite conceivable that such a railway may accomplish for Quebec what the Timiskaming and Northern Ontario railway has done for Ontario or the Hudson Bay railway for the development of northern Manitoba.

HISTORY

The history of the exploration of the district dates back almost to the first settlement of Canada by the French. Early in the seventeenth century, the French, fully alive to the importance of the fur trade, which extended from Quebec to Hudson bay, made many exploratory expeditions into the interior by way of lake St. John. As Chibougamau lake was on the direct route to Hudson bay, much valuable geographic information of this area was obtained by these explorers, fur-traders and missionaries. The first geological exploration of the region, however, was made in 1870 by the Geological Survey of Canada. Subsequent geological work was carried on by different officials bof the Federal and the Provincial Governments, also by private parties.

It was not until 1903, when important mineral discoveries were made, that the Chibougamau district came before the public notice as a probable mining field. From then until 1910 so much interest was aroused at intervals by other mineral discoveries, and by official and private reports on the mineral possibilities of the area, that the Quebec Government was pressed to build a railway into the area to exploit its mineral wealth. Before, however, committing itself to any policy or definite line of action, a Commission, headed by Dr. A. E. Barlow of the Geological Survey, was appointed to thoroughly investigate the mineral occurrences, and to advise as to the future mining possibilities of the area. In 1910, the Commission entered the area, examined the then known deposits, made a reconnaissance map, and in 1911, published a complete report. Although expressing its confidence in the possibility that mineral deposits of economic value might eventually be found in the area, the Commission

stated that the mineral deposits so far discovered were not of sufficient merit to justify the construction of a railway at that time into this region. Prospecting in the area, as a result of this authoritative report, together with war conditions, was practically discontinued from 1911 to 1921. James G. Ross of Milton Hersey in 1921, made an examination for the Blake Syndicate which was in general favourable. This again started active exploration and from 1924 onward there has been much work carried on in the district. Increased interest has been recently aroused in the mineral possibilities of the region by the rumours that the transportation facilities to the area are to be much improved.

PHYSICAL FEATURES

The general character of the district may be described as a rolling, rocky tableland with a gentle slope towards the west and north-west. The average general elevation varies from 1,100 to 1,500 feet above the sea. The long low ridges of rocky hills in a few places have an elevation of more than fifty feet above the surrounding water level, while the intervening valleys are occupied by swamps, lakes and rivers, most of which are shallow.

One of the most striking features of the region is a narrow, hilly section five to six miles wide, which extends in an east and west direction from north of Denis bay to Ashinichibastat lake. These hills rise from 500 feet to over 700 feet above lake Chibougamau. They are usually rounded in outline, although often presenting steep and at times precipitous slopes.

The area is remarkable for the profusion of its lakes, Chibougamau and Wakonichi being the two largest. The

waters of lake Chibougamau drain westward through several lakes to the Chibougamau river, then finally reach Hudson bay by way of the Nottaway river. The rivers of lake Wakonichi drain northward into lake Mistassini, then by Rupert river to Hudson bay.

CLIMATE

In view of the absence of any meteorological station in the Chibougamau region, climatic conditions at Mistassini post may be taken as representing conditions around lake Chibougamau.

The mean temperature during the period of observations at this point, (1917-26), for the three summer months, June, July and August is about 56°F., which is nearly 6° lower than Chicoutimi, 8° lower than Quebec and 10° lower than Montreal. It is very rare that frosts do not occur in each month of the year. The winter is long and severe and spring can scarcely be said to open until May. The first snow flurries usually occur about the middle of September, but the winter snow does not generally arrive until near the last of October. The ice takes firmly on Mistassini lake about the end of the first week of November and does not usually break up until the end of the first week of June. The rapid change in the seasons seems most remarkable; there is practically no spring and very little autumn. The rainfall is very low, averaging about seventeen inches, while the mean snowfall is about 121 inches. This gives a total mean precipitation of 29.1 inches, (10 inches of snow= 1 inch rain).

The following table is compiled from the reports published by the Meteorological Service of Canada and is intended to give a general survey of climatic conditions at

Mistassini post for the different months of the year over a period of years.

Temperature and Precipitation at Mistassini Post.

Period of years	Month	Temperature; degrees Fahr. High	Low	Mean	No. of days Rain	Snow	Precipitation Rain-fall in ins.	Snow-fall in ins.	Total in ins.
7	January	29	-48	-8	-	9	-	16.8	1.68
6	February	29	-45	-4	-	9	-	15.2	1.52
9	March	46	-33	11	2	8	.51	14.4	1.95
10	April	53	-13	26	3	4	.86	8.36	1.69
10	May	74	12	41	9	2	1.76	2.92	2.05
9	June	80	26	53	12	-	2.80	-	2.80
3	July	81	31	57	17	-	3.59	-	3.59
2	August	86	32	58	11	-	3.23	-	3.23
1.	Sept.	69	23	48	13	-	1.52	-	1.52
3	October	64	14	34	6	5	1.49	14.5	2.93
5	November	48	-12	20	3	11	0.86	29.2	3.78
4	December	31	-34	2	4	7	0.22	19.9	2.2

GEOLOGY

The Chibougamau region is underlain by rocks of pre-Cambrian age, the distribution and relationships of which are at present not fully known. These groups of rocks form for the most part an igneous complex made up of rock types of very

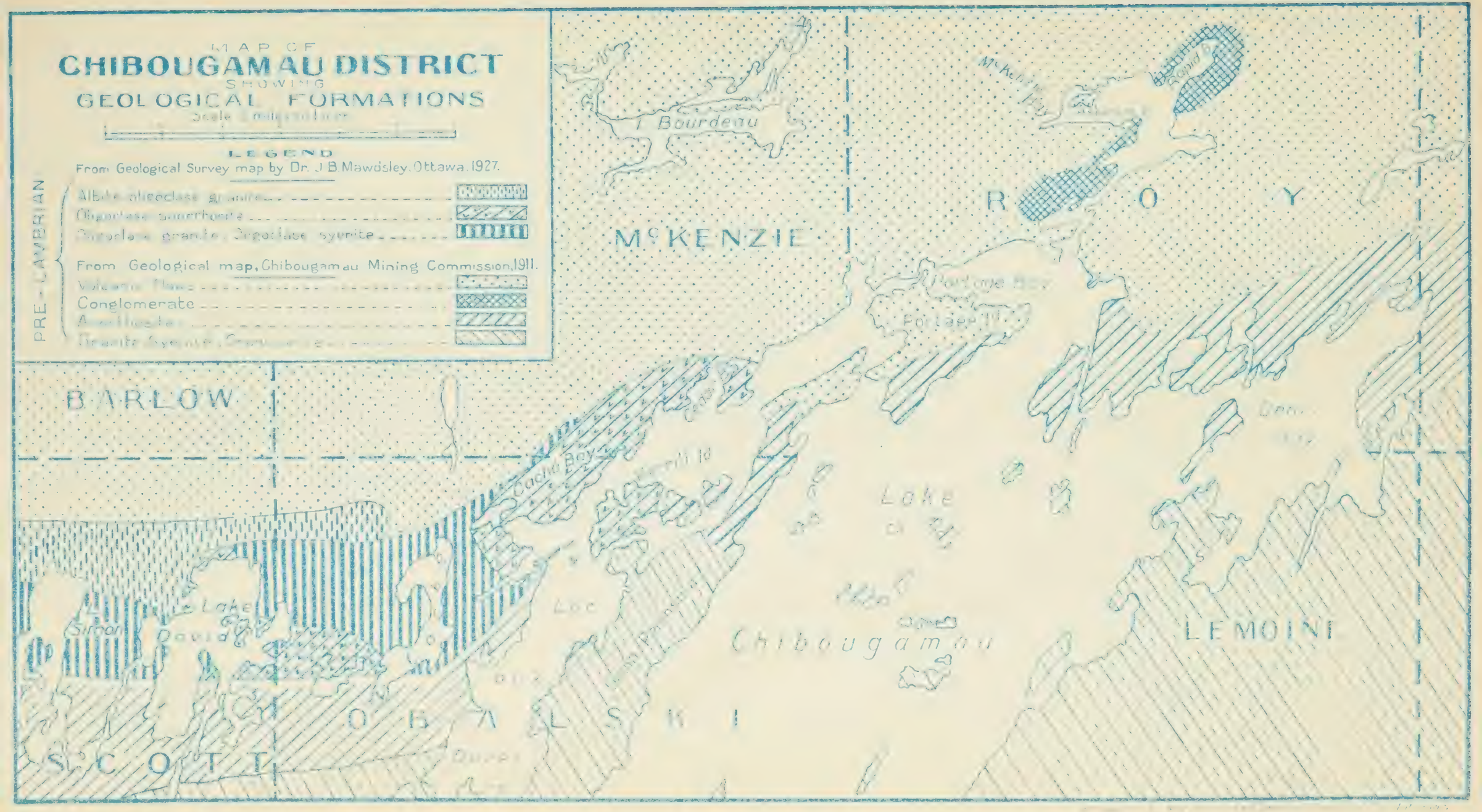
variable chemical and mineralogical composition, extending from basic to the more acid species. The rocks composing the different groups are all very intimately associated with one another, coming into unconformable juxtaposition as the result of separate intrusion. Under these circumstances, therefore, the interpretation of the exact relations obtaining between the several groups is difficult and in some cases impossible until further geological studies of the area have been made.

The Chibougamau Commission divided the pre-Cambrian formation into three great classes,- (1) greenstones resembling closely the rocks of Keewatin volcanic areas, (2) granites and gneisses, which due to their general composition, appearance and geological relations are classified as Laurentian, and (3) a type of gabbro, poor in ferro-magnesian minerals, and peculiar to this area, which lacking a better name is called anorthosite.

The volcanic rocks (greenstones) were penetrated by extensive intrusions of molten rock, the greater portion of which crystallized as anorthosite. This igneous complex of Keewatin and anorthosite was in turn invaded by a magma, which subsequently was consolidated into the granites and gneisses of the Laurentian formation.

In 1927 Dr. J.B. Mawdsley of the Geological Survey of Canada mapped in detail an area lying west of Chibougamau lake and comprising most of the area in which mining claims are at present being held. The results of his survey have changed somewhat the geology as given by the Commission. Dr. Mawdsley divided the rocks of the area into two main classes, volcanics and intrusives.

The volcanics range in composition from trachyte to basalt and are typical greenstones resembling closely the rocks


MAP OF
CHIBOUGAMAU DISTRICT
SHOWING
GEOLOGICAL FORMATIONS
Scale 1 mile to 1 inch
LEGEND
From Geological Survey map by Dr. J.B. Mawdsley, Ottawa, 1927.
PRE-CAMBRIAN
Albite-oligoclase granite
Oligoclase quartzdiorite
Orthoclase granite, Oligoclase syenite
From Geological map, Chibougamau Mining Commission, 1911.
Volcanic Flows
Conglomerate
Amphibolite
Granite, Syenite, Gneiss
BARLOW
McKENZIE
ROY
LEMOINE
Bourdeau
McKellar Rapid
Portage Bay
Portage Is.
Cache Bay
Lake
Chibougamau
Lac
Sivan
David
SCOTT
OBALSKI
Dauphin

of Keewatin areas. These volcanic flows, along the McKenzie-Obalski line, appear to form the southern limb of a syncline whose axis must be to the north.

His report further states that south of the greenstones is a belt of intrusives which were examined for a width of three to five miles from its northern contact with the greenstones. This belt was found to be composed of at least three chief types of intrusive rocks, each of which varies in composition and, in place, the varieties grade into one another in short distances. The three rock types have been called oligoclase granite and oligoclase syenite, oligoclase anorthosite, and albite-oligoclase granite in order of their descending age.

ECONOMIC MINERALS

The most important mineral occurrences of the district noted to date consist of sulphite mineralization carrying values in one or more of the following metals - copper, zinc, gold and silver. These indications are largely confined to a tract of country about twenty miles long and six miles wide, immediately west of Chibougamau lake and extending from Portage island to the north of lake David. This comprises the northern contact of the intrusive rocks with the volcanics.

The following paragraphs summarize briefly the developments of some of these mineral occurrences by certain prospecting companies.

The Chibougamau Prospectors, Limited.

This company has twelve groups of claims in the lake Dores section. No.1 group or the Merrill island property is

considered the most important at present. Exploratory work on the property of the Blake Development Company, Limited, has uncovered a mineralized zone approximately forty feet in width, which extends in a north-westerly direction to the lake, then enters the lake. The mineralization improves progressively towards the lake, and assays taken across trenches near the shore and almost on the boundary of this property and that of the Chibougamau Prospectors, Limited, gave encouraging values in copper and gold. The progressive mineralization, as mentioned above, should prove of importance to the Chibougamau Prospectors, Limited, and if further work is directed to ascertain the value and persistence of this improvement of mineralization in this direction, it may result in the discovery of a commercial ore body. In this connection it is interesting to note that the Company has recently brought in a drill and it is proposed to drill at different intervals in the lake to locate the extension of the showing indicated near the shore.

Very little work has been done to date on the Company's other groups of claims, some of which, however, adjoin mineralized properties of other companies.

The Chibougamau McKenzie Mining Corporation.

The McKenzie interests have claims in many different sections of the district. These people were the first to do any work of real importance and have been in the country for a number of years. Much stripping, which has been completed on group of claims at the south-west end of Cedar bay, shows gold values associated with chalcopyrite and pyrrhotite. The area lies in the oligoclase anorthosite, nearly a mile south of the anorthosite - volcanic contact. South of this altered mineralized anorthosite another mineralized zone occurs, which varies in width up to seven feet. A twenty-eight foot exploratory

shaft has been sunk and sampling records of this pit show encouraging values in gold and copper with some silver. Very little work has been done on this prospect to date, but preparations are under way for further development.

The McKenzie interests also control the original discovery in the district on Portage island, which is known as the "McKenzie Mine." According to the Chibougamau Mining Commission, the greatest apparent dimensions of this mineralized area, which carries chalcopyrite and low gold values, are 700 feet long by 100 feet wide. Until the recent mining activities, probably more work has been done at this place than anywhere else in the district. This consisted of surface clearing and many cross-cutting trenches in earth and rock at short intervals. A shaft has been sunk to the depth of forty feet. No work has been done on this property for some years. Possibly this was because the sampling done by the Commission on this shaft did not check with former reports, assays being in general below commercial grade. It is stated that this property has been taken over recently by the Obalski-Chibougamau Mining Company.

The Steel Fortune Syndicate.

A mile north of Proulx bay on the north shore of Dores lake, and approximately three miles to the north-east of Cedar bay, the Steel Fortune Syndicate in 1926 staked a number of claims. Pits and strippings at various points have disclosed a narrow mineralized zone extending for some distance north. Quartz forms fifty per cent of this zone; calcite and some pyrrhotite and chalcopyrite are present. Other claims, especially on the south-eastern claim of the group - claim Q. 1402 - show light mineralization which is widely distributed.

The Obalski-Chibougamau Mining Company.

This company has recently acquired, it is stated, Portage island and Asbestos island.

On Portage island is located the old McKenzie mine, a description of which has already been given. A small amount of development work was completed on this property in the early part of this year giving encouraging results

Occurrences of asbestos have been noted on Asbestos island by different geologists and mining engineers. With reference to the commercial possibilities of these deposits, Federal Government geologists state that as regards the real asbestos fibre, the following extracts from the Chibougamau Mining Commission's report is probably a fair statement of the quality and quantity available on Asbestos island.

> "At no exposure in this district which we have examined is there an appreciable quantity of No. 1 fibre. The maximum good fibre is two thirds of an inch long. This is comparatively rare and the whole production as mill fibre seems unlikely to run as high as five per cent of the rock mass when mined in large quantities."

The company has other workings north of Cache bay, west shore of Dores lake, which are on the contact between the anorthosite and the Keewatin. The development of this property has shown to date the existence of four mineralized veins. The most important of these shows a width of from four to six feet and has been uncovered at intervals by trenching for approximately 3,000 feet. Trenching and test pitting have shown important values in copper and gold.

On the south shore of Cache bay the company has uncovered a wide zone of shearing in the anorthosite. This zone shows heavy mineralization of pyrite, pyrrhotite and

chalcopyrite. Not much work has been done on the showing to date, but it is stated that the company has completed exploration plans for the coming winter.

The Blake Development Company, Limited.

These interests have important holdings on Merrill island (block C.) and on the north-west shore of lake Dores (block B.). On block C, trenching has exposed a shear zone in the anorthosite, with a strike of south 40° east and vertical dip. Rock trenches have been blasted across it at intervals from the shore for a distance of 250 feet. This shearing is mineralized with quartz, pyrrhotite, chalcopyrite and some fine and coarse pyrite.

In rock trenches found for 250 feet to the southeast there is a progressive decrease in the shearing and mineralization of the anorthosite rock away from the lake. In a trench 250 feet from the lake, mineralization is scarce and the country rock merely shows a blocky shattering.

A report in 1921 by J. G. Ross, of Milton Hersey Company, Limited, of Montreal, notes values in a trench near the shore over a width of 31½ feet as being 4.3 per cent copper and $14.05 in gold and greater values over shorter lengths were obtained in other trenches. The mineralization improves progressively towards the lake and further work should be directed to ascertain the value and persistence of this mineralization under the water of the lake.

On the north shore (block B.), across the lake from the showing on Merrill island, a distance of about 2,500 feet, there is a second shear zone, which has been considered to be the extension of the shearing on the island. Small test pits indicate similar mineralization.

Very little work is being carried on at present by

the company on its different holdings, but preparations, it is stated, are under way for further extensive exploration during the coming winter. The company has a few men in the field who are staking additional claims.

The Consolidated Mining and Smelting Company.

Field staffs are carrying on surface exploration and geological surveys on the different holdings of the company in the district. They have under option a large acreage north-west of lake Dores, as well as other ground at the north end of the lake. It has been reported recently that they have acquired further ground in the lake David section, Scott township.

Among other companies carrying on exploratory work in this district may be mentioned the following: Austin Dumond, east side of Cedar bay; R.T. Gilman, north-west shore of Dores lake; Chibougamau-Dores Mines; north-west shore of Dores lake; Chibougamau-Lake David Mines, north of lake David; Quebec-Chibougamau Power and Mining, north-west of lake Dores; Curtin Syndicate, vicinity of lake David.

CONCLUSIONS

According to the latest available geological information covering the area, no later acid intrusive is known than the quartz-rich ferromagnesian-poor albite-oligoclase granite, and as the older intrusives and still older volcanics all contain the sulphide mineralization, it is at present believed that the albite-oligoclase granite is the source of the quartz-sulphide mineralization. It is reasonable to state, therefore, that rocks older than this intrusive are more favourable for this mineralization. These older rocks, as mentioned before, are the volcanics, the oligoclase granites and syenites, and the oligoclase anorthosite.

Most of the mineral prospects noted in the district to date are found in shear zones in these rocks. Prospecting, therefore, should be carried on in these areas, especially in those which are underlain by sheared rocks and which show evidence of sulphide or quartz mineralization. The contact of volcanics and intrusives, six to eight miles south of this north contact, although largely drift covered, should be worth prospecting.

Very little geological information is recorded regarding the greenstone area to the north and northwest of Chibougamau and Dores lakes. No doubt this area has geological features similar to those of the examined area immediately south of it, and in which the mineralized showings above mentioned are found. This section, therefore, should not be overlooked by prospecting parties.

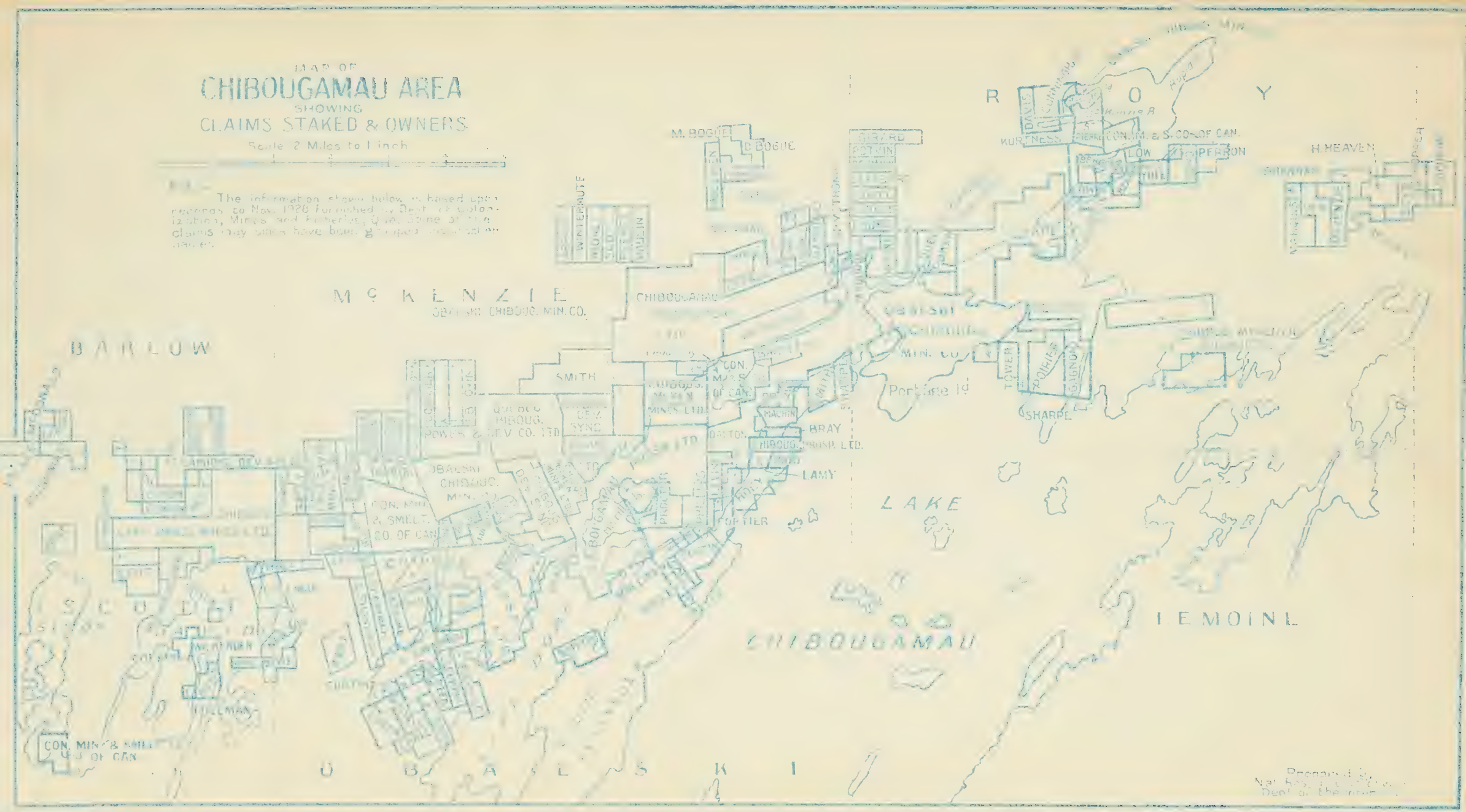
A well-known mining engineer in summarizing the mining possibilities of the Chibougamau area states as follows:

> "There has yet been far too little work done in the district to say definitely that producing mines of importance will be developed. There are, however, indications that will warrant much expenditure and which have fair possibilities of developing into mines of importance."

FORESTS

The predominating woods in the district are the different kinds of spruce, white birch, cedar and aspen, and except where burnt by recent fires, or in certain unfavourable localities, the area is thickly wooded with a fairly dense growth of forest.

Black spruce is the most abundant tree and constitutes


MAP OF
CHIBOUGAMAU AREA
SHOWING
CLAIMS STAKED & OWNERS
Scale 2 Miles to 1 Inch
The information shown below is based upon records to Nov. 1928 Furnished by Dept. of Colonization, Mines and Fisheries, Quebec. Some of the claims may since have been grouped consolidated or taken.
McKENZIE
BARLOW
CHIBOUGAMAU
LAKE
SMITH
BRAY
LAMY
SHARPE
M. BOGUE
B. BOGUE
WINTERMUTE
CHIBOUGAMAU MIN. CO.
CON. MINES & SMELT. CO. OF CAN.
MACHIN
TOWER
POIRIER
GAGNON
DAVIS
KURTNESS
PERRON
H. HEAVEN
Portage Id
Prepared by
Dept. of the Interior

more than three-quarters of the forest. It is found chiefly in the valleys, and on the lower levels, and often in these respective locations forms a very dense growth of small trees. In some places the trees will cut into logs eight to twelve inches in diameter, and even this size is sometimes exceeded, as in the vicinity of lake Mistassini and around lake Bourdeau. The greater proportion of the trees are, however, only suitable for pulpwood.

While spruce, although very generally distributed throughout the district, is not abundant, it is usually met in the depressions and on the slopes of the ridges, where trees up to twenty inches in diameter are common, and in many places sufficient to permit of profitable lumbering, if any means existed for transport to the southern markets. The best berths of this species are in the vicinity of Bourdeau and Dufault lakes and on Sorcerer mountain.

Tamarack formerly grew in abundance on the swampy ground along the banks of the sluggish streams, but it was completely destroyed by the ravages of the larch sawfly, between the years 1888-1892. The new trees show a vigorous and substantial growth, having attained already, in some cases, a height of over 30 feet, since the pest passed away.

Banksian pine, very often called 'jackpine', is encountered in the more barren and rocky areas, and on sandy flats. It is usually in trees of small diameter, stunted in its growth and often crooked.

The white, canoe or paper birch is frequently met, and, in this respect, it probably ranks with the Banksian pine. Together with the aspen poplar, it forms the prevailing second growth in areas which have been recently swept by fire. Occasionally some of these trees are found sufficiently large to furnish bark for canoes. Until recently, the Mistassini Indians secured the bark for the manufacture of their canoes from this region, but now they prefer the painted canvas whenever obtainable.

Balsam poplar is rare in the district, as the soil is in general not suitable for its growth, but it appears in the visinity of Mistassini Post, along the shores.

Balsam fir, although a comparatively rare tree, is noticed growing in the district, especially on Portage island.

Cedar is rather rare, except along the edge of various streams and lakes. Although often of considerable diameter at the base, it is stunted and usually twisted or crooked in its growth, and is thus of little value. It formerly was used by the Indians for making the ribs of canoes but has been replaced by balsam. Possibly the best cedar is found in the district surrounding lake Bourdeau.

It might be of interest to note that many of the mining companies have fire-rangers protecting the forest growth on their properties, and that certain pulp and paper companies have had cruisers in the area looking over the possibilities of future supplies of pulpwood. These facts indicate that interest has and is being taken in the forests of this district, and it may not be out of line to state that the utilization of these forest reserves is a mere matter of time.

Forest Fires.

In the area covered by this report, by far the larger portion of the surface is covered either with old forest, as in the area immediately surrounding Bourdeau and Dufault lakes, or with second growth of over fifty years. In the great conflagration of 1870, a large part of the forests south of the height of land and eastward from the St.Maurice was almost completely destroyed. Since then only occasional,and for the most part small, patches have been burnt over. In 1906 and 1907 when prospecting was active in the region, there were many bush fires. The largest area burnt over at this time is situated to the west and southwest of Ashinitchibastat lake.

Another section was burnt along the Chibougamau river in Blaiklock township, while still another area was noticed extending along on both sides of the Burlow river, above its confluence with the Kawasaaguan.

Perhaps the largest conflagration since 1870 was in 1910, when large tracts of land extending from the north-east side of Dores lake, northeast to Wakonichi and passing the east end of Bourdeau lake were desolated by fire.

FISHERIES

Fish are exceedingly abundant in nearly all the lakes, with Chibougamau and Wakonichi outstanding, not only on account of the abundance, but also by reason of the unusually large size and good quality of the fish found therein. The chief food fishes are: lake trout, brook trout, whitefish, pickerel, pike, sturgeon and two species of sucker.

Trout are found in all the large lakes and grow to a great size in Chibougamau, Wakonichi and Mistassini lakes; occasionally fish forty pounds in weight are caught. Brook trout are abundant in Wakonichi and Chibougamau lakes, many weighing from four to six pounds each. Small speckled trout from a quarter to half a pound in weight are caught in the Chibougamau river near Chigobiche lake. Whitefish of good size and quality are found in nearly all the lakes. Pike and pickerel, next in importance to the trout and whitefish, abound in all the waters but are especially plentiful in lake Dores. Many of these species weigh from eight to ten pounds each. Other species of fish are found in this region but they are not of any great value as food fishes. Bass are not found in these waters.

In former years the Hudson Bay Company fished these lakes for their annual catch, but at present this fishing ground is not used to any great extent as it was abandoned for a more convenient locality on Mistassini lake.

No doubt the present activity of prospecting for economic mineral deposits in the region will result in the greater use of these fishing grounds for local purposes.

The fisheries of these lakes would undoubtedly afford fair returns if the district had adequate transportation facilities, but it is questionable whether they would not be very soon depleted if subjected to intensive fishing. In the meantime, little benefit can be derived from the fish beyond supplying the local demand.

FUR AND GAME

Caribou and moose, once plentiful in the region, are almost extinct and can no longer be relied on as a source of food by the Indians, who now live mostly on fish, rabbits and the fur-bearing animals. Of these, beaver and bear are the most plentiful, the former being still found in considerable numbers in the small lakes and streams tributary to the lakes. Black bear are fairly common on the extensive areas of burnt timber land on all sides of the lake. Besides these, marten, mink, fisher, otter, lynx and foxes are caught.

The Chibougamau area seems especially suitable as a place of residence for these valuable fur-bearing animals and with a little care and protection they could be greatly increased in numbers.

AGRICULTURE

The scarcity of soil and its prevailing sterility preclude the possibility of this territory ever being developed agriculturally, even if the usual rigour of its climate would permit successful farming operations.

As already mentioned, the mean temperature of the three summer months, June - August, is about 56°, while that

of Moose Factory on James bay, over a hundred miles farther north is over 58°. Difference in altitude, rather than in latitude, seems to have a much greater effect in the production of this great decrease in the summer temperature; again, the area, due to its proximity to the Labrador plateau, seems to share in the undesirable climatic conditions of this latter region. Under these circumstances, very few properly directed attempts have been made to carry on extensive farming operations.

At Hudson Bay post, situated on the south-west shore of Mistassini lake, and probably the most favourable locality, both as regards soil and climate in the whole of the surrounding country, great difficulty is experienced in growing a small crop of potatoes. Unsuccessful attempts have been made at this place to grow oats, barley and wheat.

Sir R. F. Stupart, Director of the Meteorological Survey of Canada in 1910 writes as follows: "It would appear that while root crops may prove a success in some seasons, there is always a liability of their being injured or destroyed by summer frost. It is exceedingly doubtful whether the clearing of the land near lake Chibougamau would have any appreciable effect towards lessening the frequency of summer frost, and the change required to ensure successful agriculture is considerabl

WATER POWER [1]

The water powers of the Chibougamau area are small owing to the fact that the area is situated at the height of land and at the very headwaters of the Chibougamau river with the result that the water supply is necessarily limited at any rapids or falls where power might be developed. At the outlet

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[1] Prepared by the Dominion Water Power and Reclamation Service, Department of the Interior, Ottawa.

of lake Chibougamau there is a drop of twelve feet which is estimated as capable of developing 125 horse power under ordinary minimum flow conditions or 290 horse power ordinarily for six months of the year. Lower down the Chibougamau river somewhat greater possibilities are found in the vicinity of lake Opemiska where one site with a head of fifty feet might be capable of producing from 2,000 to 4,600 horse power. Any such estimates are purely tentative, however, as no records of flow have as yet been secured and the figures are based on the flow characteristics of streams in adjacent areas.

For an ample supply of power for the Chibougamau area it will be necessary to look farther afield and with transmission lines of from 100 to 150 miles in length, it will be possible to reach sites of magnitude on such rivers as the Saguenay and the tributaries of lake St.John to the southeast, on the upper St.Maurice river to the south and on the Nottaway with its larger tributaries to the west.

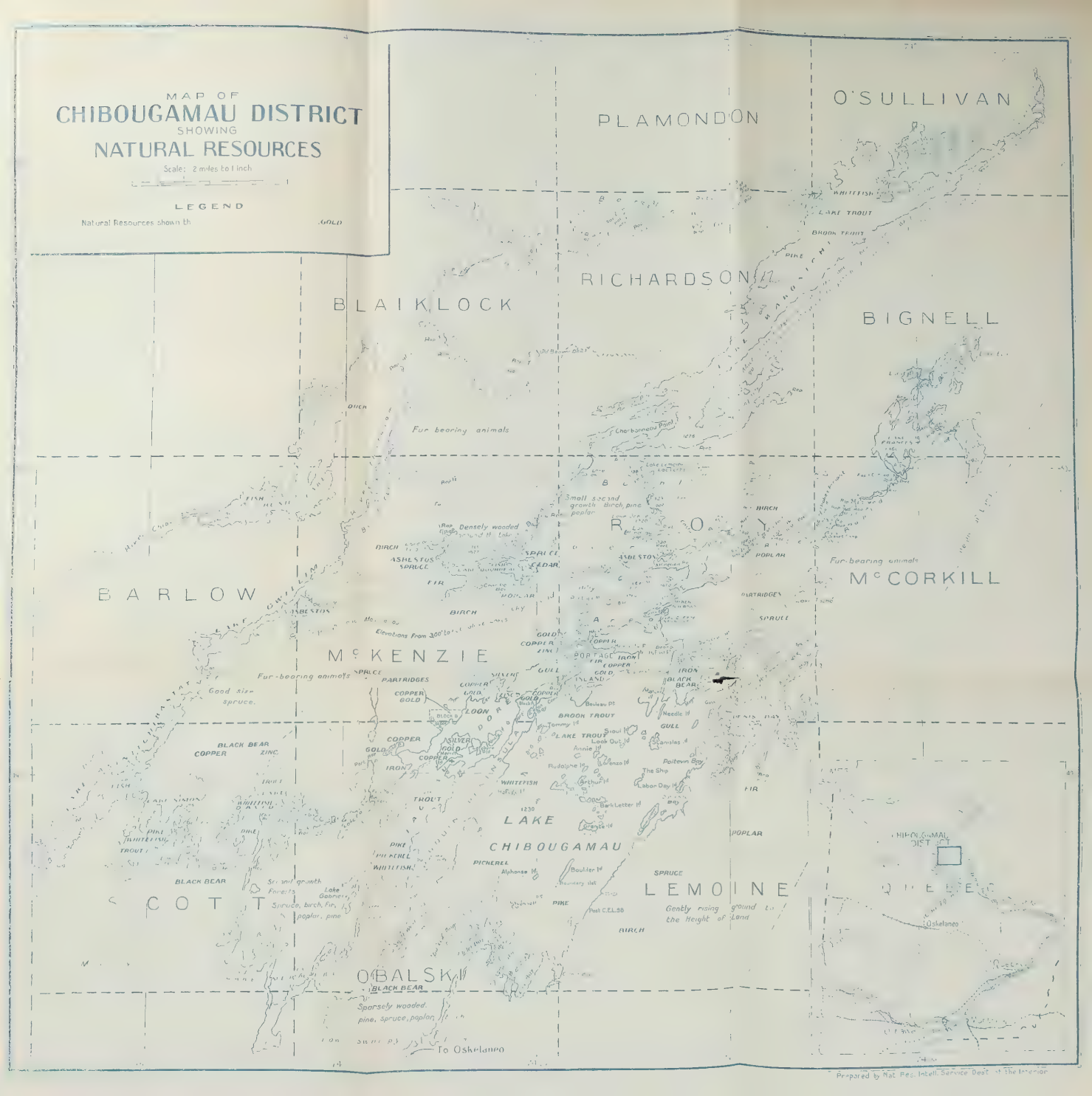
POPULATION

There are no Indians or other inhabitants permanently resident in the area immediately surrounding lake Chibougamau, but each year this area affords a place of temporary residence for certain members of the Mistassini tribe, who may desire to fish, hunt or procure bark for their canoes. No doubt, however, the recent advent of the white man will attract, at least for the present, a roving class of people.

BIBLIOGRAPHY

The following are the most important of the published reports dealing with the resources and development of the Chibougamau District.

Richardson, James, Geol.Surv., Canada, 1870-71, pp.283-308.
Low, A.P., Geol.Surv., Canada, 1892-93, part A, pp.46-48.
Geol.Surv., Canada, Pub.No.923, 1906, pp. 1-61.
Obalski, J., Min.Oper.Prov.Quebec, 1904, pp. 1-21.
" " " " " " , 1905, pp.23-37.
Sullivan, J.H., Lands and Forests, Prov.Que., June 30, 1907.
Dulieux, E., Min.Oper.Prov.Quebec, 1908, pp.50-83.
Barlow, A.E., Rep.Chibougamau Min.Com.Que., 1911.
Mawdsley, J.B., Min. Oper.Prov.Quebec, 1927.
Mutch, D., Mutch Min.Serv., Chibougamau District, Aug. 17, 1928.


MAP OF
CHIBOUGAMAU DISTRICT
SHOWING
NATURAL RESOURCES
Scale: 2 miles to 1 inch
LEGEND
Natural Resources shown th
GOLD
PLAMONDON
O'SULLIVAN
RICHARDSON
BLAIKLOCK
BIGNELL
McCORKILL
BARLOW
McKENZIE
COTT
OBALSKI
LEMOINE
CHIBOUGAMAU
LAKE
Fur bearing animals
Densely wooded
Small second growth Birch, pine poplar
Fur-bearing animals
Elevations From 300' to
Fur-bearing animals
Good size spruce.
Sparsely wooded. pine, spruce, poplar
To Oskelaneo
Gently rising ground to the Height of Land
Oskelaneo
Prepared by Nat. Res. Intell. Service Dept. of The Interior

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